

# SOT CO manual (ver. 2008.01.25)

This manual explains how to complete SOT CO checklist.

## CO Names:

Write your name here. Make sure whether you are the CO during the former part of the week (Mon. – Wed.) or the latter (Thu. – Sat.).

## Week number:

To see the number of this week, check the website

([http://www.isas.jaxa.jp/home/solar/hinode\\_op/hinode\\_monthly\\_events.php](http://www.isas.jaxa.jp/home/solar/hinode_op/hinode_monthly_events.php)).

## 1. Before Hinode daily meeting

### 1.1. Check emails sent to sot\_co

Get information on today's operation and observing targets (pointing, new proposals).

### 1.2. Latest data check

You may use ANA browser to check the data obtained by yesterday's operation.

To launch the browser, type

\$\$ browser

After launching the browser, you can check data by the following process.

- 1) Go to "Select File" to select "Solar-B SOT".
- 2) Click "Selection tool" button.
- 3) Define date and wavelength.
- 4) Click "Apply selection" button.
- 5) Select an image.
- 6) Click "Movie widget" button.
- 7) Click "Link" button, then click the picture in display.
- 8) Click "Do it!" button to start a movie.
- 9) Check the movie.

### 1.3. Status check

Go to the website [http://hinode.nao.ac.jp/forstaff/data/SOT temp/](http://hinode.nao.ac.jp/forstaff/data/SOT_temp/)

#### 1.4. Today's event check

Go to the website

[http://www.isas.jaxa.jp/home/solar/hinode\\_op/hinode\\_daily\\_events.php](http://www.isas.jaxa.jp/home/solar/hinode_op/hinode_daily_events.php) to check today's operation (e.g. table upload pass number, any special operation).

#### 1.5. Discuss today & tomorrow's SOT programs

The main subjects are:

- Any change of today's program?
- Observing target for tomorrow's SOT observations (you should take into account the position of a bubble in NFI observations)
- Consider shifting the pointing East (left) of the desired target, to avoid the NFI bubble on the East side of the CCD; if you do this, use an ROI to shift to the West (right) on the CCD.
- If you have shifted the target and plan to use an ROI to shift on the CCD, make sure the other instruments and ground-based observers understand this.

### 2. During the daily meeting

#### 2.1. Today's plan

Make sure if it is necessary to adjust the pointing.

Check the pass number in which SOT table is uploaded (if there is no table upload on this day, then tell CP about this to erase table upload in the daily event page).

#### 2.2. Tomorrow's plan

Decide observing targets of tomorrow's observations.

Check the table upload pass number (The third pass is usual).

### 3. After the daily meeting

#### 3.1. Resubmit timeline if pointing is changed

To submit the timeline you made, type

```
$$ plan_submit_pdl.sh
```

#### 3.2. Check OP/OG sheet issued by CP

Go to the website

[http://www.isas.jaxa.jp/home/solar/hinode\\_op/hinode\\_planning\\_status\\_login.php](http://www.isas.jaxa.jp/home/solar/hinode_op/hinode_planning_status_login.php) to check OP/OG sheet.

## 4. Daily planning work

### 4.1. Make & submit timeline

To make timeline, type

```
$$ timeline
```

To make macro command, type

```
$$ pbgui
```

To make sequence, type

```
$$ obstool
```

To make program, type

```
$$ obstool
```

To check the sequence number used in table

```
$$ tableviewer
```

To submit timeline (after CP finishes compiling today's plan), type

```
$$ plan_submit.sh
```

When you make timeline, check the following points. After checking, then mark the checklist.

<General>

- Deadline for submitting timeline is **10 a.m.** (or sometimes earlier). Check timeline and ORL carefully beforehand to keep this time limit.
- Check and avoid two commands at the same time.
- If pointing is changed after the timeline generation is started, you must import the pointing file again. (Note: pointing changes affect the DSC file.)
- Set “STOP ALL” at the end of the timeline, about 2 minutes before OPERATION PROHIBTED.
- Confirm if ROI number (region table) is correctly selected in all programs.
- Check Frame ID and ROI number for programs of composite Macro commands (see also .use file to check field-of-view).
- Set margin factor = 0.8 for limb observations. In other cases follow the original value but you should take care of appropriate data transfer.

- Add comments on observed targets (except for synoptic observations).

#### <FG>

- Avoid frequent changes of NFI wavelength.
- Run a BFI-only program during the backup period.
- Do not use a ROI shift for un-summed MG or DG.
- If the NFI will be idle for a period greater than a few minutes, run the “Blocker Stow” program.

#### <SP>

- SAA-free period is preferable for SP observation.
- Use three sequence of commands: ”SP Table Pause”, ”SP Current Stop”, and ”SP Current Stop” or “STOP ALL”, when stop infinite loop SP program.

#### <Table upload>

- No command is allowed during a station pass in which SOT table upload is scheduled.
- Confirm table content when you update any Program, Sequence, and Macro-command.
- Make sure FG and SP RAM IDs are set if loading a table file. Check them against the RAM ID of the last load (found in the ORL file). Make sure the Doppler RAM ID is set for the DPL load on Saturday (for Monday’s load) and resume FG operations after this is loaded.

#### <Focus>

- Do not move focus just for synoptic observation.
- Stop observation at least 1 min. before issuing Focus command (or the focus move will fail) and resume observation after.
- Check and set “Focus position” appropriate for disk or limb, for FG wavelengths or SP-dominant observation; do not make focus moves of only 1 or 2 steps.

#### <CT>

- Make sure that there is at least one minute interval between CT Serve On and the start of observation.
- Insert a “CT Servo Cycle OFF/ON” command 1 min before an SP scan, if the SP scan starts more that 1 hour after a “CT ON” command.
- Set “CT wedge” position appropriate for limb and AR observations.

- Set “CT Servo On” or “CT wedge” with a margin of 3 min after pointing change.
- Use “Hysteresis Removal” not “CT On” before an alignment calibration.

#### 4.2. Circulate plan to sot\_co

Send email describing tomorrow’s observing plan to [sot\\_co@plain.isas.jaxa.jp](mailto:sot_co@plain.isas.jaxa.jp). The content of the email is automatically generated by `tim2mail SOT-yyyyymmdd****.tim`. For example,

`$$ tim2mail SOT-200801240001.tim`

The subject of this email should start with “sot\_co”.

#### 4.3. Enter today’s planned information into SOTGUI database

`$$ wtim`

`$$ lt`

`$$ sotgui SOT-yyyyymmdd****.tim`

### 5. SOT weekly meeting (Thursday from 9:30 am).

You can be connected by the following steps.

- 1) Input telephone number.  
0-010-1-303-977-1004 (from ISAS)  
0-0041-010-303-977-1004 (from NAOJ)
- 2) Input passcode  
5047 #
- 3) Speak your name and press #.  
\*\*\*\*\* (your name) #

#### 5.3. Edit daily event webpage

Go to the website [http://www.isas.jaxa.jp/home/solar/hinode\\_op/](http://www.isas.jaxa.jp/home/solar/hinode_op/)

to write the name of CO, HOP & Campaign observations, Table upload pass number

### 6. Hinode Weekly meeting (Friday, after daily meeting)

Make sure if the DR allocation change is necessary (usually, SOT: 70%, XRT: 15%, EIS: 15%).

※ **Additional information**

SOTCOWS (Computers to use)

IP address: 133.74.8.195 (sotcows1), 133.74.8.196 (sotcows2)

All the passwords related to CO works are given in '~sotco/documents/password.txt'.